

Root[®] with O3[®] Regional Oximetry

Available for Adult, Paediatric, Infant, and Neonatal
Applications for cerebral and non-cerebral monitoring sites



O3 Regional Oximetry

O3 Regional Oximetry helps clinicians monitor cerebral oxygenation in situations in which peripheral pulse oximetry alone may not be fully indicative of the oxygen in the brain.¹

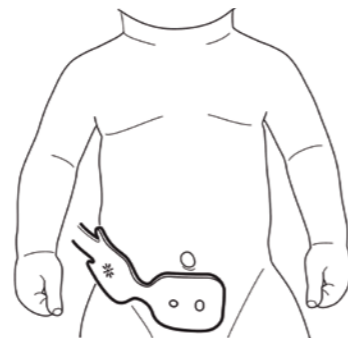
O3 Regional Oximetry monitors the regional haemoglobin oxygen saturation of blood (rSO₂) in the region of interest for infant, neonatal, paediatric, and adult patients.²⁻⁵

With their flexible design, O3 sensors easily conform to and allow for ergonomic application.



Infant and Neonatal Application

- > 3% ARMS trending accuracy specification
- > Patients less than 10kg



Paediatric Application

- > 5% ARMS absolute accuracy and 3% ARMS trending accuracy specifications
- > Patients between 5kg and 40kg



Adult Application

- > 4% ARMS absolute accuracy and 3% ARMS trending accuracy specifications
- > Patients greater than 40kg

Expansion with Root

The expandable, versatile, and customisable Root patient monitoring and connectivity platform allows O3 Regional Oximetry to be combined with other monitoring modalities and automatically charts patient data in electronic medical records (EMRs).

Expanded Visibility of the Brain

Root with O3 Regional Oximetry and Next Generation SedLine® Brain Function Monitoring provides a more complete picture of the brain

Root with **Next Generation SedLine brain function monitoring** helps clinicians monitor the state of the brain under anaesthesia with bilateral data acquisition and processing of four leads of electroencephalogram (EEG) signals, enabling continuous assessment of both sides of the brain.

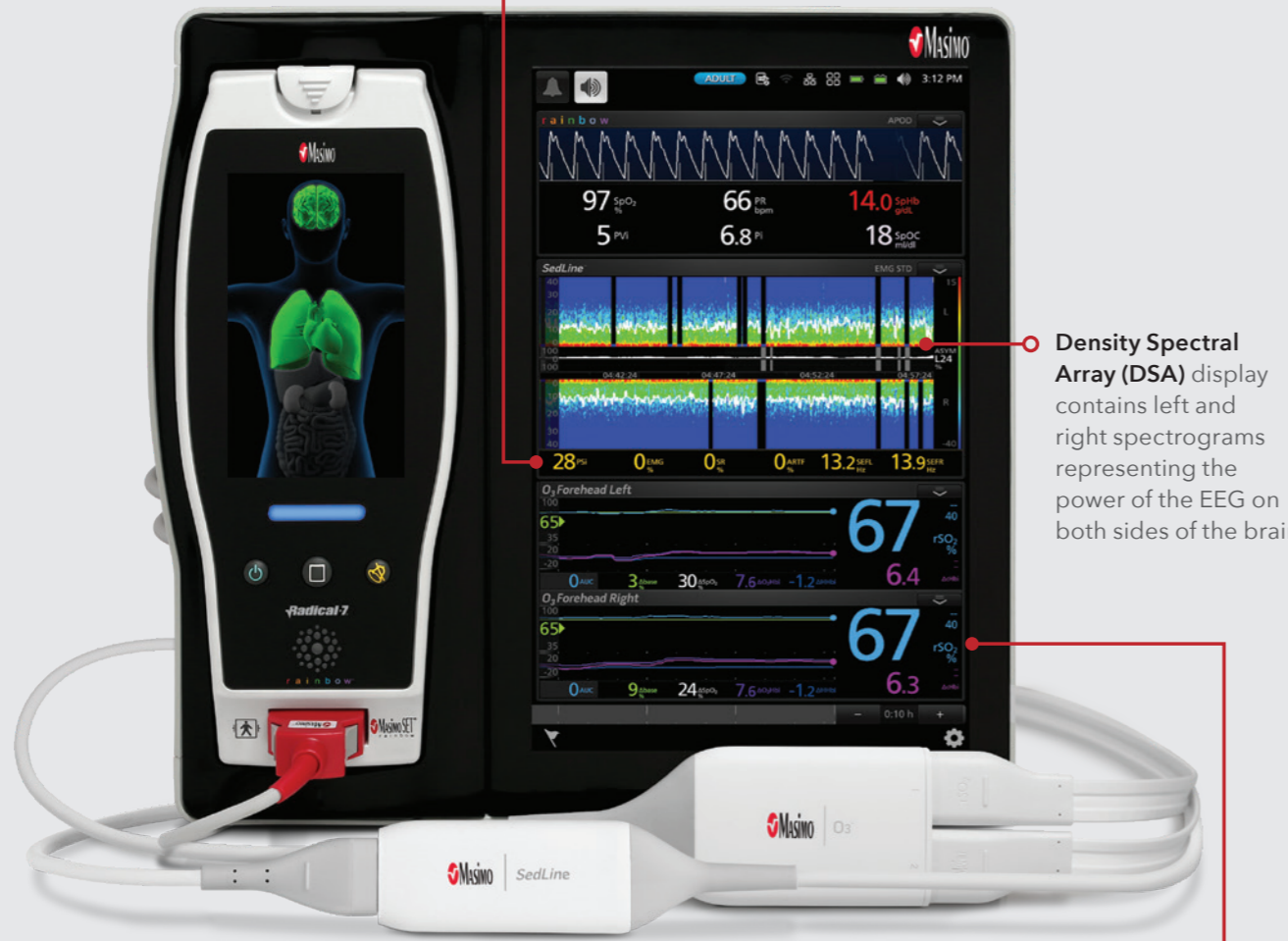


When used together on Root, SedLine and O3 provide a more complete picture of the brain on an instantly interpretable, integrated display.

Patient State Index, PSi, a processed EEG parameter related to the effect of anaesthetic agents

Density Spectral Array (DSA) display contains left and right spectrograms representing the power of the EEG on both sides of the brain

rSO2 provides tissue oxygen saturation



Expanded Visibility of Oxygenation Status

Root with O3 Regional Oximetry and Masimo SET® Pulse Oximetry (SpO2)

O3 is displayed with Masimo SET® pulse oximetry on Root, providing clinicians with expanded visibility of a patient's oxygenation status.⁷



Expanded Visibility of Patient Data

Iris Gateway® for Advanced Connectivity and Interoperability

Integrate data from Root and third-party devices using Iris® ports for automated charting in EMRs.



Data from Root and connected third-party devices

Device data and alarms are automatically charted in EMRs

Expanded Visibility Through Supplemental Display

UniView™ aggregates data and alarms from multiple Masimo and third-party devices – such as patient monitors, ventilators, anaesthesia machines, IV pumps and others connected through Masimo systems – on a supplemental display.

- > Integrated real-time data visualisation in order to reduce cognitive overload and promote data sharing among multiple clinicians, to help them to spot trends and coordinate care
- > Visual alarm indicators, relayed from connected devices, to help care teams recognise patient distress and target areas for clinical focus
- > Tailored use-case-specific screen layouts optimise the presentation of advanced and integrated parameters, trend data, and waveforms in critical care areas
- > Adaptable layout automatically reconfigures based on connected devices



Kite® expands visibility by providing a supplemental display of patient data from Root, with the ability to customise the layout differently from Root.

By allowing customisation of what can be displayed, Kite allows clinicians to focus on the most pertinent data for each stage of a patient's journey, empowering them to make more informed decisions.

With Kite, all clinicians in the OR can view brain monitoring information instantly, simultaneously.

O3 Module Specifications

PHYSICAL CHARACTERISTICS	ENVIRONMENTAL
Length (including cable) 12.1 ft (3.7 m)	Operational Temperature 32 to 104° F (0 to 40° C)
Width 1.8 in (4.6 cm)	Storage Temperature -40 to 158° F (-40 to 70° C)
Thickness 0.6 in (1.5 cm)	Operating and Storage Humidity 10 to 95%, non-condensing
Weight 7.1 oz max (200 g max)	Altitude Up to 12,000 ft (3700 m)

O3 Sensor Specifications

PHYSICAL CHARACTERISTICS	ENVIRONMENTAL
Application Site Forehead and Body	Operating Temperature at Ambient Humidity 41 to 104° F (5 to 40° C)
Wavelengths 4	Storage Temperature at Ambient Humidity -40 to 140° F (-40 to 60° C)
Adult rSO₂ Sensor Accuracy (ARMS)¹ ≥40 kg	Storage Humidity 15% to 90%, 86 to 140° F (30 to 60° C)
Absolute Regional Oxygen Saturation (rSO ₂) 4%	
Trending Regional Oxygen Saturation (rSO ₂) 3%	
Paediatric rSO₂ Sensor Accuracy (ARMS)¹ ≥5 kg and <40 kg	
Absolute Regional Oxygen Saturation (rSO ₂) 5%	
Trending Regional Oxygen Saturation (rSO ₂) 3%	
Neonatal rSO₂ Sensor Accuracy (ARMS)¹ <10 kg	
Trending Regional Oxygen Saturation (rSO ₂) 3%	

SedLine Module Specifications

PHYSICAL CHARACTERISTICS	ENVIRONMENTAL
Module Physical Dimensions	Module Operating Conditions
Width 1.3 in (3.3 cm)	Operating Temperature 41-104° F (5-40° C)
Length 4.0 in (10.2 cm)	Operational Humidity 15-95%, non-condensing
Thickness 0.8 in (2.0 cm)	Module Storage Conditions
	Storage Temperature -40-158° F (-40-70° C)
	Storage Humidity 15-95%, non-condensing
	Exposure to Pressure 500-1060 mbar

SedLine Sensor Specifications

Application Site Forehead	Ground Electrode CB
Active Channels 4	Reference Electrode CT
Active Electrodes L1, L2, R1, and R2	Duration of Use Maximum of 24 hours
	Latex Content Does not contain natural rubber latex
	Adult SedLine EEG Sensor >18 years

Root Specifications

ELECTRICAL	PHYSICAL CHARACTERISTICS
Root	Weight <8 lbs (3.63 kg)
AC Power Requirements 100-240 VAC, 47-63 Hz	Dimension 11 in x 10.5 in x 5.5 in (27.94 cm x 26.67 cm x 13.97 cm)
Fuse Rating 2A, Time-delay, Metric (5 x 20 mm), 250 VAC	Display
Battery	Type Backlit Active Matrix TFT LCD
Type 10.8V Lithium Ion (Nominal)	Resolution 1280 x 800 Pixels
Capacity 4 Hours ⁸	Color 24 bit RGB
Maximum Charging Time 4 Hours	Size 10.1 in (25.65 cm) Diagonal
ENVIRONMENTAL	Touchscreen
Operating Temperature 32° F to 122° F (0° C to 50° C)	Type Multi-Touch P-Cap
Transport/Storage Temperature -40° F to 158° F (-40° C to 70° C)	CONNECTIONS
Operating Humidity 10% to 95%, Non-Condensing	Connector Type (Number of Ports)
Storage Humidity 10% to 95%, Non-Condensing	Nurse Call 1/4-in Round Female (1)
Operating Altitude 500 mbar to 1060 mbar	MOC-9 Masimo Connector (3)
-1,000 ft to 18,000 ft	USB USB 2.0 (2)
(-304 m to 5,486 m)	

¹ André Y. Denault, Mohamed Shaaban-Ali, Alexis Cournoyer, Aymen Benkreira, Tanya Mailhot, Chapter 7 - Near-Infrared Spectroscopy, Editor(s): Hemanshu Prabhakar, Neuromonitoring Techniques, Academic Press, 2018, Pages 179-233. ² TR-28465- This study demonstrates the absolute and trending accuracy for adult sensors. ³ TR-30742- This study demonstrates the trending accuracy for paediatric sensors with reference to adult sensors. ⁴ TR-36359- This study demonstrates the trending accuracy for neonate sensors with reference to adult sensors. ⁵ TR-36374- This study demonstrates the trending accuracy for neonate sensors with reference to blood reference to adult sensors. ⁶ ARMS accuracy is a statistical calculation of the difference between device measurements and reference measurements. Approximately two-thirds of the device measurements fell within ± ARMS of the reference measurements in a controlled study. ⁷ TR-25818- This study demonstrates front end integration of O3 Regional Oximeter with Root.

⁸ This represents approximate run time at the lowest indicator brightness, using a fully charged battery.

* In countries with regulatory approval and Root devices with the correct software version.